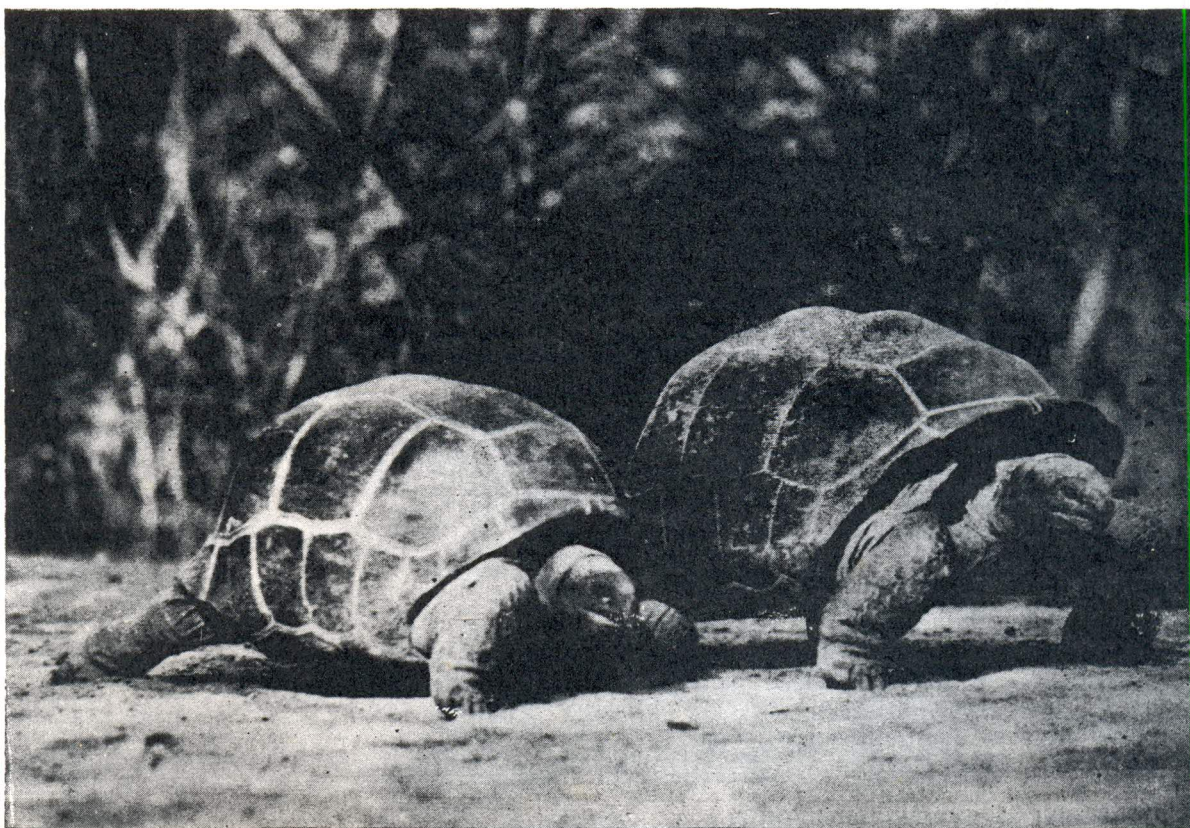
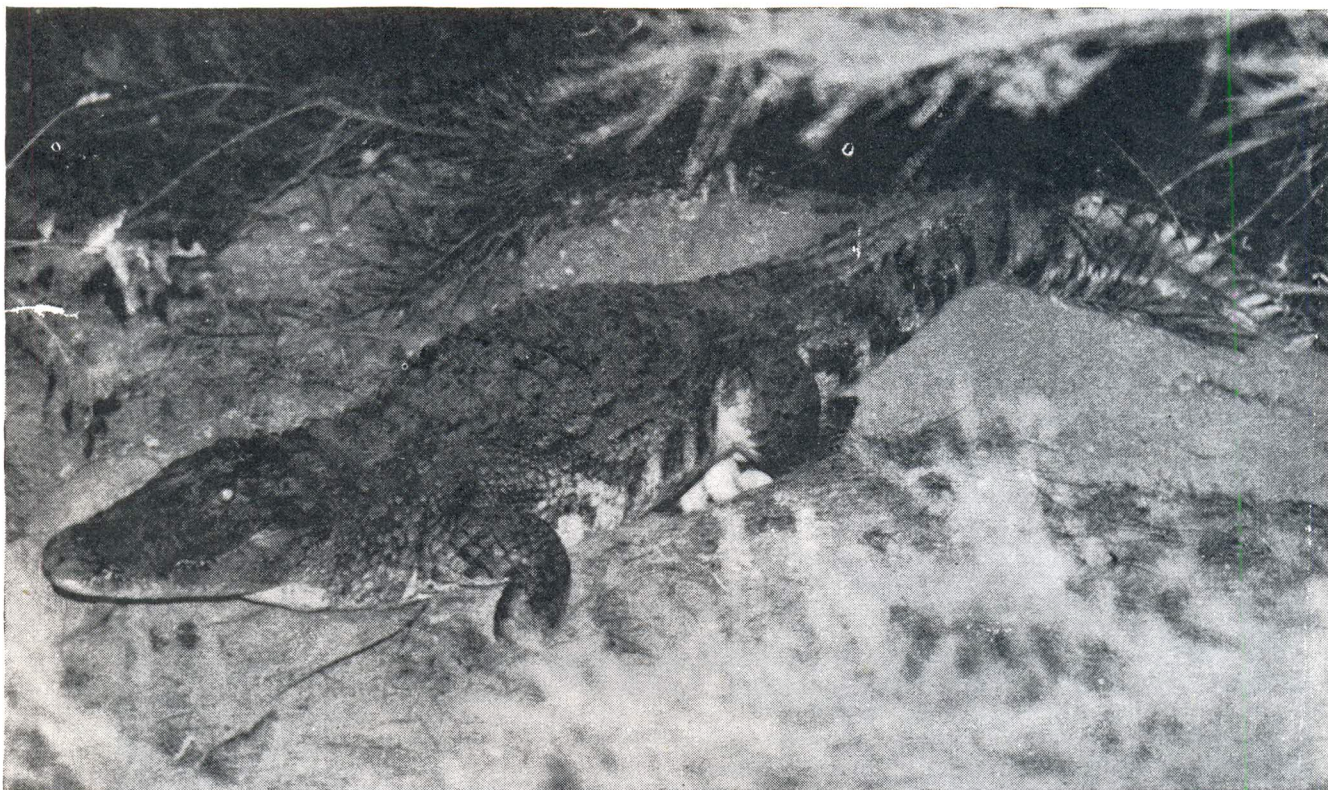


HAMADRYAD



A pair of Seychelles tortoises (*Geochelone giganteus*) presented to the Madras Snake Park by His Excellency P. Loizeau, Minister of Transport.

Feb: 1979



A marsh crocodile laying eggs at the Madras crocodile bank.

Feb : 1979

HAMADRYAD: NEWSLETTER OF THE MADRAS SNAKE PARK TRUST

4: No.2

May 1979

News from the MADRAS SNAKE PARK AND
MADRAS CROCODILE BANK

The Republic of Seychelles gifted the Snake Park with a pair of Aldabra tortoises, Geochelone giganteus. The animals were brought to Madras by Mr. P. Loizeau, the Minister of Transport. This donation had been very kindly arranged by Rear Admiral M.P. Awati. This is the largest species of tortoise in the world; growing to over 500 kg. they live more than 200 years.

The Director of Tourism, Maharashtra and two architects visited the Snake Park and Crocodile Bank in order to finalize a plan for a snake and crocodile park in Bombay.

The Director and the Secretary, WWF-Tamil Nadu, had discussions with the Governor about wood poaching within Guindy National Park. The Governor has given an assurance that trespassers into the park would be prevented and collecting firewood and grazing cattle in the park will be prohibited.

During the Ridley sea turtle nesting season (Jan - March) the Snake Park distributed leaflets about the need to conserve turtles in coastal ^{towns} of south Tamil Nadu. In spite of all sea turtles being listed in Schedule 1 of the Wildlife Act, there is a continued killing for meat and collection of eggs.

The Director inaugurated the zoological society at New College.

Recent improvements at the Madras Snake park include the renovation of the Demonstration Pit which now has an elaborate new roof, landscaping and a P.A. system. New, air-cooled terrariums have been constructed for housing the Indian and Reticulated Pythons. Plans for a new sea snake display are on the anvil.

A pair of Mexican green iguanas was received from the Colombo Zoo where they have been breeding for several years.

Several trainees have been working at the Snake Park including Preston Ahimaz of Loyola College, and Lalith Jayawickrama of Sri Lanka.

The Crocodile Bank handed over three female mugger to the Orissa Crocodile Project. They will be used to form a breeding nucleus at the Nandankanan Biological Park.

Visitors to the Snake Park and Crocodile Bank included Dr. John MacKinnon from Indonesia, an atomic energy delegation from the USSR and Dr. H R Bustard.

The Crocodile Bank participated in the Tourist Trade Fair held from 8.1.79 to 11.3.79 and the gate collections are being used for the development of the bank.

The Crocodile Bank has initiated a part time training programme for unemployed young men of Vadanemmel Village. It is felt that with the increasing activity of various state Forest Departments in crocodile husbandry and management, these trainees will enhance their chances of finding employment.

SILENT VALLEY

In spite of appeals from WWF, IUCN, and other conservation bodies in India and abroad, the hydro electric project in Silent Valley one of the last remaining rain forest in India, is going ahead. Prof M.K. Prasad, who has initiated the Society for the Protection of Silent Valley, is not taking this lying down. He writes: "We are very close to our next step. The Society will be filing a civil suit at the High Court of Kerala... to get the Silent Valley Ordinance squashed since it is against the interest of saving the lion-tailed macaque, which is protected under the Wildlife Act. Another case is also being filed by a wellwisher of ours who owns land in Aali, 12 kms from Silent Valley. The advocates themselves are.... conservationists. Though we do not expect any favourable outcome of this case, it will create publicity and attract attention".

Meanwhile, the Kerala State Assembly has said that the Project will abide by the environmental safeguards laid down by the Western Ghats Task Force.

SEA TURTLE NOTICES FROM VISAKHAPATNAM

Dr. S Dutt, Head, Department of Marine Sciences at Andhra University, has written about sea turtles on the Visakhapatnam coast. "This year, considerable numbers of Olive Ridelys have been captured by fishermen, from the latter half of November '78. At Vizag the number of turtles captured per day has not been more than a dozen. The number captured is on the decline since the second half of January '79. This is also the period (October-March) when the coastal waters support, not insignificant schools of lesser sardines and whitebait. Unfortunately, there are no records from this locality of the turtles coming on shore to lay eggs; probably they are being captured before they can do so. I wonder whether, apart from their coming to the coastal waters on their way to the sandy beaches for laying eggs, their presence here is not also to feed on the small pelagic fishes mentioned above. When I made enquiries of the fishermen in their villages, I could not get a clear reply as to whether they eat the meat on any regular basis. The replies that I got were: the older people among us eat them or some of us eat them. I have no evidence that

preference for their meat. I have some evidence that they are sent to markets in Calcutta, but you know how difficult it is to collect authentic data in such matters.

The fishermen here do catch and, I am afraid, even treat them with callousness. They certainly do not worship them. According to CMFRI data (Newsletter No.7, October '77 - March '78), 3000 to 4000 green turtles are captured annually in the Gulf of Mannar alone, and regularly slaughtered on Sundays in Tuticorin market.

In May 1976 a leatherback which came on shore at Vizag was injured and killed due to reckless handling by people who should have known better".

LETTERS FROM THE ANDAMANS

Satish Bhaskar, Field Officer of the Madras Snake Park, has been in the Andamans since September '78. Apart from his periodic reports we have received several interesting letters from him:

30th November, Havelock Island - "Turtle nesting areas I've visited, since my last letter include the Betapur coast immediately north of Rangat, and English Island, but I didn't find a single track in English, nor could I visit North and South Button Islands where nesting is said to be heavy. This probably was the case in the recent past before fishermen began frequenting these shores. But on a 2 km stretch of Betapur, I dug up plenty of green, hawksbill and Ridley eggs (fresh tracks visible in some instances). What thrilled me more was finding a track 193 cms broad on this coast - almost certainly a leatherback. A huge area had also been excavated by the turtle, but oddly, no craters had been left behind - this, I think, because the turtle didn't lay - an opinion reinforced by about 5 hours of fruitless digging by me. The tracks were about 10 days old, ie made in about early November.

You may be interested to know that my boat crew saw a crocodile (I saw the bubbles alone) in the channel between John Lawrence and Henry Lawrence Islands (ie just north of Havelock). Am I right in presuming you haven't seen crocs this far south?

I had the privilege of meeting a very brave man here. He and 4 of his crew mates were caught in a cyclone off Havelock about 3 months back. The boat engine conked out and they drifted to Burma, reaching it after 23 foodless days, unconscious but alive. What a story he has to tell! I happened to be in a queue behind him at Port Blair as he was making the last leg of his adventurous journey, purchasing a ferry ticket to Havelock. His name is Tuna (!) and he's a diver (they had been diving for Turbo and Trochus shells when overtaken by the storm). They jettisoned their entire fish catch to keep their boat afloat. 3 men unconscious and 2 remaining to bail out water. Finally they too were unconscious! What a yarn.

He's encountered sharks on numerous occasions while diving and ^{has} seen a Bengali dismembered to death off Herbertabad. No.4, but when I questioned him about sharks, the first incident he related was about a co-diver who grabbed his neck and hung on in terror when approached by a "monster" - which was a dugong! This was in the channel where I saw the croc bubbles.

Recently saw the brilliant and instantaneous colour change in an 8" squid as it passed from sunlight into the shadow of our dinghy - as quickly done as neon signs do in a big city at night".

13 December, Port Blair - "At Cuthbert Bay, about the centre of Middle Andaman's eastern coast, I found another leatherback 'excavation' made, possibly, in about late September. Again, no craters were present; tracks faintly visible but didn't have time to search for eggs. I inadvertently got to within a few inches of a sea snake once again. It was in ankle deep water, probably making for nearby rocks, when I disturbed it and it made off after splashing me. I did no more shore walking that night and slept on a high rock!"

6th January, '79 - "I've just returned from Little Andaman today after 8 days there and it was unbelievable. Was I mistaken in thinking the leatherback nesting season was over? There were 82 recent leatherback excavations (which I now believe means 82 nests) including 46 sets of leatherback tracks. And two hours before New Year I saw my first nesting leatherback! She had finished egg laying and was camouflaging the nest area when I saw her. I tried barring her path to the sea by standing in front of her but she kept coming on and I had to step aside. The carapace length was 5 ft, small for a leatherback, and the tracks were 180 cms across. The largest track I measured was 215 cms across and the turtle had one flipper missing.

Green, Ridley and Hawksbill nests totalled only 9 in number, 4 sets of tracks visible. Most of the leatherback nesting takes place on 8 km long West Bay which is about 1 1/2 days walk from the nearest human presence at the Lighthouse construction site which in itself is quite remote. I had travelled 3 1/2 days without seeing a human footprint. Coming back, I ran into an Onge tribal camp, occupants missing, and green turtle meat roasted and just begging to be eaten, which I surreptitiously did (never having eaten turtle before and being quite famished - had eaten only biscuits and vitamins for the past four days). I left two biscuit packs for the Onges to salve my conscience, actually mainly to reduce chances of stopping a spear if found out!"

27th January, Camorta (Nicobars) - The Nicobars are incredible! Let me tell you what happened at Trinkat Island. Trinkat is the tiniest of 3 islands including Nancowry and Camorta that form a cluster. I found a hawksbill nest made the previous night and after trekking the whole day, spread my polythene ground sheet on the beach. At 4.40 am I was woken by a rustling sound near my head. It was a small crocodile gaping at me through the mosquito net. I caught, weighed and released it, taking care to

inform the Forest Department of the episode. Trinkat, which lies north-south and is narrow, has mangroves on its west coast and sandy beaches on its east coast. The mangroves are known to harbour plenty crocs. On the east coast I found fresh tracks of a largish croc -- each footprint was 13 cms long. Nancowry, Camorta and Katchal also have crocs, with a recent instance of a mainland being bitten on his backside while washing. Will check this out when I visit Katchal.

My enthusiasm for sleeping on sandy beaches has suffered. I'm overlooking it this time but if the crocs that wake me get any bigger I'm headed back to Madras. Have there been instances of crocs attacking a sleeping person?

At Trinkat a Nicobarese showed me a snake sheltering at low tide in 6" of sea water near mangroves. Oddly it didn't have a flattened tail I held it lightly by the tail and it wasn't bothered much at first but it soon got desperate and spun around 5 or 6 times trying to get away which it finally did. It was about 3 ft long, dirty grey and with a rounded, tapering tail. Another fast moving snake posed 4 ft away while I photographed it among coconut husks and leaf debris. It was pale yellow underneath, grey above and black spots behind the head. Length about 3 ft."

22nd February, Camorta - "Things were going well until 10th February when I injured my knee. I was miles from anywhere, almost passed out, and now, ten days later, it will not bend. You can imagine how I feel, being in the Nicobars and unable to dive, missing boats all the time to interesting islands, and my tribal permit wasting away.

I've "done" Nancowry Island and though there weren't any turtle nests I did find 8 sets of croc tracks on sandy beaches. All these were small.

On Katchal, there were 14 sets of croc tracks (the largest croc left a hind footprint 24 cms long) on sandy beaches bordered in almost every case by brackish lagoons. I got to see two small crocs on land in daylight and one in a pool by torchlight at night. This croc, hind footprint length 16 cms and blind in one eye lived in quite a bushy nullah. Hoping to see it one night as it crossed over to the sea I hid nearby but unfortunately slept off and it passed within metres of me.

Also at Katchal I saw 3 Nicobar monkeys, 3 leatherback nests, 3 green turtle nests, 11 Ridley nests and about 10 tracks made by sea snakes of at least two species, one a sidewinder. I didn't get time to visit the bay cave you mentioned - I'm not even certain that this colony has survived because no one in the village appeared to know about it. Also didn't get time to track down the survivor of a recent croc attack, but did meet a Nicobarese who had been gored by a wild boar and brought unconscious to hospital

If I had come to the Nicobars just a few months earlier than I did I would have seen a party of 4 whales which frequently swam around in the channel separating Nancowry from Camorta. Each was said to be 40-50 ft long and since they had hung about the area for 3-4 months, they were a familiar sight to all who lived here. What a sight they'd have presented underwater through masks! They appear to have left the area when one of them died and was washed not quite ashore. Many Nicobarese stripped off hunks of meat and fat and others are said to have taken the teeth as curios (may be the animals were sperm whales because I doubt whether any other species of whales above 40ft in length have teeth).

OBSERVATIONS ON A NESTING MUGGER AT THE MADRAS SNAKE PARK

*correction
15 eggs*
On 21 March, '78, a female C. palustris in the breeding pit laid her first nest of 12 eggs. The nest was shaded, a bucket of water poured over it every Saturday and the covering earth twice removed, eggs examined and re-covered with earth/leaf mixture for porosity (the laterite soil being particularly dry we think artificial dampening is necessary). Daily temperature readings were made. On 26-3-'78 she laid another nest in the south corner (6 eggs) and actively defended this site, apparently uninterested in the first nest. The second nest was shaded after 20 days. For the next month the female only visited the second site and was not observed at the first.

*correction
5-6 ft*
At 1 am on 22/5/78 Raju, the night watchman, heard the calling of hatchlings and in full moonlight saw the female scratching earth from the first nest site with her front feet. Now and again she pushed her head into the nest hole and dug with her nose very actively. After 10 minutes 6 hatchlings were around her climbing out of the hole. The female grunted and the hatchlings responded. As she moved off toward the main pond, the 6 stayed very close to her sides and proceeded to the water. During this 6 m walk the female called 3 more times and the young replied. After 15 minutes 5 more young came from the nest and went into the small pond near the nest site. The babies called sporadically all night. Raju observed them till 5 am.

At 9 am the female chased out the sweeper and came to the small pond. We saw her push hatchlings out onto palm leaves at the pool edge repeatedly with her snout. I picked up a baby, which vocalized and the female charged from across the enclosure and bit the tree I stood behind. The male swam to where the young were grouped and the female returned to the small pond. At 9.50 Vijaya, a volunteer saw the female pick up a hatchling and carry it to the big pond in her mouth. She shook it out of her jaws where the other hatchlings were grouped. At 10.10 am we watched the female go to the nest (in response to a call?) and start digging with both front feet and sometimes hind feet, pushing earth away and head bent into the nest hole. She moved around the hole clockwise, now and then dipping her nose in and biting clods of earth etc.

Finally she pulled out an egg with the front of her jaws and shifted it back. She put pressure on the egg several times and her front teeth seemed to puncture it. With a second bit of pressure the hatchling slipped suddenly into the jaw pouch, squirming. She brought the hatchling, tail hanging out between her teeth, to the small pond, and deposited it with the others outside the water on the edge. We noticed that almost all spent the entire first day out of the water in the open, even though the temperature was over 100°F.

At 11 am we observed the female back to the nest, scraping earth and picking up already hatched eggs in her mouth. She is very alert, active and bright-eyed nothing like the lethargic, uninterested animal she usually is.

The 12 young observed were normal and healthy.

Correction

THE CENTRAL CROCODILE BREEDING & MANAGEMENT TRAINING INSTITUTE

The above Institute was set up by the Government of India and became operational in the latter part of 1978. As far as we know it is the only Institute of its kind in the world.

The Institute, situated on the shores of Mir Alam Tank, opposite the world-renowned Nehru Zoological Park, in Hyderabad, has been created, as its name implies in order to disseminate training in all aspects of crocodile husbandry and conservation. It is the brain-child of Dr. H.R. Bustard a reptile population ecologist who has long specialised in crocodilians and marine turtles. Dr. Bustard has been in India since 1974, when he was invited by the Government of India to advise on measures to save the gharial then feared to be on the verge of extinction.

Working through FAO/UNDP Dr. Bustard has worked on the gharial project in India as U.N Adviser. This very successful Project, expanded to the saltwater crocodile (also endangered within India) and to the Indian mugger - a depleting species. Many sanctuaries were especially gazetted for crocodilians under the Project and there was a need to manage these also. Although initial husbandry units were under the care of one of Dr. Bustard's 7 Ph.D's the time came when there was a need to broaden the scope to cope with increased demand for trained staff. This is the function of the Central Crocodile Institute.

Government of India took the decision that the Institute would also be responsible for teaching sanctuary management as unless this subject was taken up, it would be difficult to manage the rehabilitated crocodilians after release into sanctuaries.

The first Course started in December 1978. At present the Institute is offering a post-graduate 9 months' Diploma Course entitled, "(7) Crocodile Breeding/Management

and Sanctuary Management". It hopes in due course to add a M.Sc Course also dealing with somewhat broader aspects.

The first course is being attended by 11 Forest Officers from most parts of India including the States/Union Territories of: Uttar Pradesh, Arunachal Pradesh, Orissa, West Bengal, Tamil Nadu, Andhra Pradesh, Kerala, Madhya Pradesh, Maharashtra and the Andamans.

The Institute is receiving technical support including staff from FAO/UNDP who are also building up a reference library. A start has been made on a national slide collection relating to wildlife and wildlife habitats.

The Institute is under the Director ship of Mr. Pushp Kumar well known as the former Director of Nehru Zoo and who is currently co-jointly Conservator of Forests (Wildlife Management), Government of Andhra Pradesh.

1 March 1979.

WILD BABY GHARIAL IN CAPTIVITY AT KATERNIAGHAT

The three major rivers i.e Girwa, Kauriala and Ghogora are swollen and their adjoining cultivated land has become submerged due to excessive waterlogging in seasonal rains.

A local cultivator saw a baby gharial of two feet in waterlogged lowland in a village area on the right bank of the Ghogora, located about 4-5 miles down stream of the newly constructed Ghogora barrage. The cultivator caught this baby gharial and released it in the tube-well tank constructed in the village. He fed the baby with tiny fishes for a week or so and later informed local wildlife authorities (on 28 August 1978) who immediately rushed to the spot took the gharial in their custody and transported it to the Crocodile Project situated about 20 km away. It was released in the concrete pool.

The hatchling was 57 cm. in length and 555 gms. in weight. Due to the disturbance by visitors it did not feed for a few days and remained hidden under the palm trees or in the water. It started feeding a week later.

The hatchling is thought to be one year old, which drifted from the Kauriala river via the Indo-Nepal border through the confluence of the Gerwa-Kauriala, and finally crossed the Ghogora barrage due to water currents caused by heavy downpour.

Ajai Kumar Srivastava
(Research Scholar)
Crocodile Project
Katarniaghat, Bahraich, U.P.

AN ALTERNATE TO TURTLE-OIL AS A BOAT-CAULKING AGENT

I read, with great interest, S. Bhaskar's letter on turtles in the Lakshadweep Islands in the July issue of Marine Turtle Newsletter and would like to make this comment.

For a number of years I was engaged in commercial fishing along the Western and Northern rim of the Indian Ocean basin-notably in Kenya, Somalia, what was then known as the Aden Protectorate, and the oceanic regions of Madagascar, the Comores and the Seychelles. Both Green and Hawksbill turtles are (were) present in significant quantities throughout this region and, since much of the inshore coastal fishing consisted of gill and tangle netting, considerable numbers of these marine animals were taken on a year-round basis.

The boats which formed this fishery were usually either large dug-out canoes with built-up sides or for vessels above twenty-eight feet in length, construction was of crude planking, nailed, pegged or lashed together and caulked with a variety of compounds such as sisal fibre, feathers, coralrock lime, bits of leather and other available filler. Both wood and caulking were liberally dressed with what was termed "seefa".

"seefa" is a crude oil substance obtained by shredding shark and rays livers and dropping them into an empty 44 gallon drum through the small filler hole on the top. The partially-filled drum was then left in the sun with the filler cap loosely fitted. Organic decomposition of the tissue inside was rapid and effective and the smell indescribable. After 2 to 3 weeks the 'brew' stabilised into an oily substance having the colour and consistency of a watery molasses and it was this which was used as a caulking dressing.

The main point to note is that this shark-liver compound was preferred by all the Bajuni/Somali/Coast-arab fishermen as a water-proofing agent to turtle oil which was only used when sharks and rays were not present.

My suggestion for your problem in Lakshadweep is to try out "seefa" as an acceptable substitute in place of the currently utilised turtle-oil.

The manufacturing process is as described and could not be simpler. The product is ready to use as soon as it ceases to produce gas. All that is required to apply it is a swab of sisal fibre and an insensitive nose.

W. Travis
Principal Fisheries Officer
Suva, Fiji.

Further subscriptions for 1979 have been received from:

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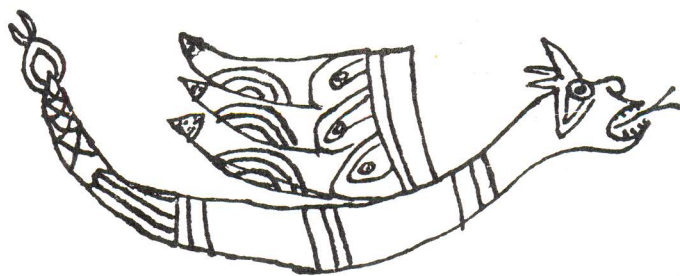
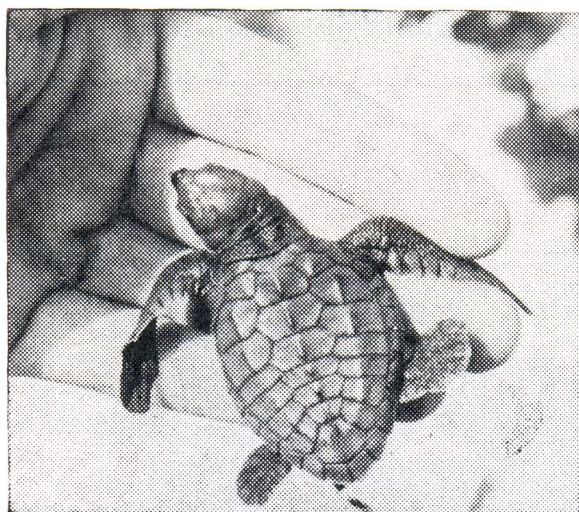
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Local :	Rs. 10	annually
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Cheques should be made to the Madras Snake Park Trust



A pair of Green Mexican Iguanas (*Iguana iguana*) procured from Sri Lanka Zoo, handed over to us by Lalith Jayawickrama on 24-4-79.